# UNITED STATES PATENT AND TRADEMARK OFFICE

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| 09/881,892 | 06/15/2001 | Olivier Le Briz | 859063.496 | 8179 |

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SEED INTELLECTUAL PROPERTY LAW GROUP PLLC
701 FIFTH AVE
SUITE 6300
SEATTLE, WA 98104-7092

| EXAMINER |
|---|
| NATNAEL, PAULOS M |

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DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on \_\_\_\_\_ .

2a)☐ This action is **FINAL**.     2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-19_ is/are pending in the application.

    4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)☐ Claim(s) \_\_\_\_\_ is/are allowed.

6)☒ Claim(s) _1-19_ is/are rejected.

7)☐ Claim(s) \_\_\_\_\_ is/are objected to.

8)☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on \_\_\_\_\_ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on \_\_\_\_\_ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _3_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: \_\_\_\_\_ .

## DETAILED ACTION

1.      The fee calculation was based on three independent claims, i.e., claims 1, 10

and 16. However, claims 7-9 are also independent claims.  Appropriate correction is

required.

### *Claim Rejections - 35 USC § 102*

2.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.      Claims **1, 7,8,10** and **11** are rejected under 35 U.S.C. 102(e) as being anticipated

by Tsujihara et al., U.S. Pat. No. 5,298,988.

Considering claim **1**, a control signal for controlling a means for correction of at least

one electron beam that scans a screen line by line, the control signal comprising: an

amplitude of which varies along each line according to a first curve of a first type

determined by a plurality of line parameters, each of the plurality of line parameters

generated according to a second curve of the first type determined by a plurality of

column parameters, is met by Figs. 7B and 7C, wherein the amplitude v1 and v2 are variable. (col. 6, lines 54-68)

Considering claim **7**, a device for adjusting the convergence of three parallel electron beams, comprising: a group of horizontal convergence correction coils and a group of vertical convergence correction coils, each group controlled by a control signal of claim 1, is met by the disclosure that "In FIG. 5, a correction waveform of a vertical saw-tooth wave as shown by (1), for example, is supplied to the reference voltage terminal 16 of FIG. 3 so that vertical amplitude correction is implemented when it is applied to the vertical convergence coil or orthogonal correction for vertical lines is implemented when it is applied to the horizontal convergence coil."

Considering claim **8**, a device for correcting the luminance of a screen, comprising: means for generating at least one electron beam of controllable intensity, the intensity of the electron beam corrected by a control signal of claim 1, is met by the pattern generator 25 (fig.2) and correction waveform generator 27 (fig.2) and/or the control circuit 47 that outputs the horizontal luminance correction waveform, Fig.6.

Considering claim **10**, a method of generating a control signal for correcting at least one electron beam that scans a screen line by line, the method comprising:

a) determining a plurality of column parameters, is met by V1 and V2, Fig.7B

b) generating a plurality of column curves from the respective plurality of column

parameters, is met by fig.7B and 7C.

c) generating a plurality of line parameters from each of the plurality of column curves,

respectively, is inherent because the parabolic horizontal correction waveform

necessarily comprises line parameters if one were to draw lines across the waveform in

horizontal direction.


d) generating a control signal for correcting the location of the electron beam as it scans

the screen line by line, the amplitude of the control signal varying along each line

according to a plurality of line curves generated from the respective plurality of line

parameters, is met by the disclosure that "the control circuits 45-47 ...produce

correction waveforms in correspondence to the horizontal amplitude, and consequently

a correction waveform with an amplitude V2 as shown in Fig.7C is produced

automatically." (Col. 6, lines 64-68)


Considering claim **11**, the method of claim 10 wherein generating the plurality of line

parameters comprises varying the line parameters from one line to another according to

the plurality of column curves.

        See rejection of claim 10;

## *Claim Rejections - 35 USC § 103*

4.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.      Claims **2-6, 9, 12-19** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Tsujihara et al. U.S. Pat. No. 5,298,988 in view of Oh, U.S. Pat. No. 5,694,181.

Considering claim **2**, the control signal of claim 1 wherein each of the first and second

curves of the first type comprises the addition of:

a) a constant level, determined by a first parameter, two half Xn curves, where n is any

predetermined value, located on either side of the center of the curve, the common

origin of the half Xn curves located at the center of the curve and the maximum values

of the half Xn curves at the ends of the line determined by a second and a third

parameter respectively, is met by the Fig.7B and 7C;

        Except for;

b)  a double-top curve with a continuous derivative, formed by at least two humps

placed end to end and located on either side of the line center, each hump having a null

derivative at its top, and each minimum or maximum value of the curve set by a

respective distinct parameter.

Regarding b), Tsujihara et al does not specifically disclose to double top curves.

However, the claimed double top curve or similar curves to designate image

convergence correction is well known in the art.

In that regard, Oh discloses a digital convergence correcting circuit for digitally

correcting a convergence of R,G and B, which includes a memory for storing only seed

data, wherein "25 points of seed data for a single screen are set in such manner that 5

points in horizontal direction and 5 points in vertical direction are set..." as shown in

Figs. 3,4 and 5B. (see col. 4, lines 12 through col. 6, line 9). In particular, Fig.5B

discloses a double top curve having 5 points with various parameters for convergence

correction.

Therefore, it would have been obvious to the skilled in the art at the time the

invention was made to modify the system of Tsujihara by providing the double top curve

convergence correction of Oh, in order to make the system more versatile and less

costly for the user.

Considering claim **3**, the control signal of claim 2 wherein the double-top curve has a

zero value and a null derivative at its center;

See rejection of claim 2 (b).

Considering claim **4**, the control signal of claim 2 wherein the double-top curve has a

zero value and a null derivative at its ends;

See rejection of claim 2 (b).

Considering claim **5**, the control signal of claim 1, determined, for each line, by five line

parameters.

Regarding claim 5, while Tsujihara et al. do not specifically disclose a five line

parameters, it would have been an obvious matter of design choice to have only five

line parameters, since such modification would have involved a mere change in the

number of line parameters.

Considering claim **6,** the control signal of claim 1 wherein each line parameter varies

according to the second curve determined by five column parameters.

Regarding claim 6, see rejection of claims 1 and 5.

Considering claim **9**, a circuit for generating a control signal of claim 1, comprising: a

first calculator adapted to generating the control signal based on a predetermined

number of line parameters, synchronized with a screen line scanning signal, and at

least one second calculator adapted to generating the line parameters of each line of

the screen based on a predetermined number of column parameters, synchronized with

a vertical screen scanning signal,

Regarding claim 9, Tsujihara et al. disclose the computation processor 48 (fig.8)

and correction signal generator 27. However, Tsujihara et al. do not disclose the

detailed circuitry of the correction signal generator 27, which receives a sync signal 20

and generates the control signals therefrom. The sync signal comprises horizontal and

vertical sync components as is well known in the art. Therefore, it would have been

obvious to the skilled in the art at the time the invention was made to modify the system

of Tsujihara by providing separate calculators for the horizontal and vertical scanning

signals in order to generate a control signal for each, so that the horizontal and vertical

control signals are utilized separately for generating the line parameters accordingly.

Considering claim **12**, the method of claim 10, wherein generating the plurality of

column curves and the plurality of line curves comprises: adding together the following

curves:

a) a constant level curve determined by a first line parameter of the plurality of line

parameters; two half X" curves, joined together at a common origin forming a center

with the maximum values of each half X" curve at the ends of the joined curves

determined by a second and a third parameter, respectively, where n is a

predetermined value, is met by the Fig.7B and 7C;

Except for;

b) a double-top curve having a continuous derivative and formed by at least two humps

placed end to end and located on either side of a center of the double-top curve, each

hump having a null derivative at its top and each minimum or maximum value of the

double-top curve set by a respective distinct parameter.

See rejection of claim 2(b);

Considering claim **13**, the method of claim 12, comprising generating the double-top

curve to have a zero value and a null derivative at its center.

See rejection of claim 2(b)

Considering claim **14**, the method of claim 12, comprising generating the double-top

curve to have a zero value and a null derivative at its ends.

See rejection of claim 2(b).

Considering claim **15**, the method of claim 10 wherein the plurality of column

parameters comprises five column parameters for each line, and the plurality of line

parameters comprises five line parameters for each line.

See rejection of claim 5.

Considering claim **16**, a device for adjusting the convergence of three parallel electronic

beams that scan a screen line by line, the device comprising:

a) a group of horizontal convergence correction coils and a group of vertical

convergence correction coils, is met convergence coils, fig.5; (see also figs. 2,9,13)

b) a circuit for generating a control signal to the group of horizontal convergence

correction coils and a group of vertical convergence corrections coils, is met by the

correction waveform generator 27, figs. 2 and control circuits 45-47, fig.6;

Except for;

c) a first calculator adapted for generating a control signal based on five line parameters

synchronized with a screen line scanning signal;

d) at least one second calculator adapted to generate the line parameters of each line of

the screen based on a predetermined number of column parameters synchronized with

a vertical screen scanning signal.

Regarding c) and d), see rejection of claim 9.


Considering claim **17**, the device of claim 16 wherein the control signal generating

circuit is configured to generate a control signal for each electron beam, the control

signal having an amplitude that varies along each line according to a first curve of a first

type determined by a plurality of line parameters, each of the plurality of line parameters

generated according to a second curve of the first type determined by column

parameters.

See rejection of claims 12 (b) and 16.


Considering claim **18**, the device of claim 17 wherein the first curve is determined by

five line parameters and the second curve is determined by five column parameters.

See rejection of claim 5;


Considering claim **19**, Tsujihara discloses the following claimed subject matter, note;

a) wherein the control signal generating circuit is configured to generate each of the first

and second curves of the first type by adding a first curve of the second type of a

constant level determined by the first line parameter, a second curve of the second type comprising two half X" curves joined together at a common origin to form a center of the second curve of the second type, the common origin of each half X" curve located at the center of the second curve of the second type, and the maximum values of the half X° curves at the ends of the second curve of the second type determined by second and third parameters, respectively, is met by the Figs.7B and 7C;

Except for c)

c)a third curve of the second type comprising a double-top curve with a continuous derivative formed by at least two humps placed end to end and located on either side of a center point of the third curve of the second type, each hump having a null derivative at its top and each minimum or maximum value of the double-top curve set by a respective distinct parameter.

See rejection of claim 2 (b);

## Conclusion

6.      The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kimura et al. U.S. Pat. No. 5,345,280 discloses a digital convergence correction system and method for preparing correction data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019.  The examiner can normally be reached on 10:00am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for

the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

4750.

MICHAEL H. LEE
PRIMARY EXAMINER

Paulos Natnael *Pmw*
October 17, 2003